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ORIGINAL LECTURES.

CLINICAL LECTURES

ON THE TREATMENT OF STRANGULATED HERNIA.

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No. I.

HAVING recently had several cases of strangulated hernia at our clinic, it is my desire, this morning, to offer some comments upon the subject, using the cases incidentally as means of illustration. My impression, from what I have seen of this affection, has long been that its treatment, to which it is my intention, on this occasion, in great degree to limit myself, is by no means so well understood by the great body of the profession as it ought to be. The very word by which this form of hernia is designated carries with it, in the minds of most practitioners, something terrifying; and it is, therefore, not surprising that they should approach such cases with great timidity, if not positive reluctance and misgiving as to the result of their efforts to afford relief.

It must be borne in mind, as a matter of great practical moment, that there are two distinct varieties of strangulated hernia, the acute and chronic, or, more properly speaking, the sudden and gradual. These expressions sufficiently explain themselves, and yet their import is not always, if indeed generally, duly weighed in practice. Acute strangulation is most common in hernia of recent standing and of small size; the tumor has, perhaps, attracted little if any attention; there has been no pain or, indeed, even any serious inconvenience; the patient is simply conscious that there is a little swelling in the groin, readily receding during recumbency and readily reappearing in the erect posture. Suddenly, under the influence of some bodily exertion, as jumping, straining, or lifting, he is seized with pain and uneasiness in the tumor, and with inability to push it back, although he may, while making the effort, lie upon his back and employ some force to effect his purpose. The swelling, instead of being soft and elastic, as it was a short time previously, is firm and tense, as if it were tightly distended, as indeed it is, if it be mainly composed of bowel; the local distress rapidly increases, both in extent and severity; abdominal tenderness soon supervenes, and a sensation is experienced as if a cord were drawn tightly around the hypogastric region. The movements of the body are more or less painful, the bedclothes are too heavy for comfort, and the lower extremities are instinctively flexed in order to relieve the tension of the abdominal muscles. The bowels are obstinately constipated, and, as the propulsion of their gaseous and liquid contents is arrested at the seat of the stricture, colicky pains are superadded to the other suffering. The stomach speedily sympathizes with the constricted intestine, the effect manifesting itself in the first instance by nausea, and soon after by vomiting, at first of the ordinary contents of the organ, whatever these at the time may happen to be, and subsequently of stercoraceous matter. Along with these symptoms there are great thirst, excessive restlessness, and a constant desire for cold air, with an excited and corded state of the pulse, pinched features, and exquisite tenderness of the entire abdomen. If prompt relief be not afforded, gangrene ensues, and the patient either perishes or, what is almost worse, an artificial anus forms and a miserable existence is eked out.

Such is a rapid sketch of what is justly denominated acute strangulation, an affection which not unfrequently runs its fatal course in less than twenty-four hours,—nay, occasionally, indeed, in less than half that time. The variety of hernia most subject to this extraordinary progress is the femoral; but I have also witnessed it in the inguinal and even in the umbilical.

In the milder forms of strangulation, not unfrequently called chronic, the whole course of events is different; the tumor is generally old, more or less bulky, and partially, perhaps completely, amenable to retentive measures. Strangulation occurs gradually, not suddenly, as in the acute form of the affection, caused, it may be, by bodily exertion, or simply by the pressure of the abdominal viscera at a moment when the parts are not adequately supported by the truss, too old and weak any longer to answer its proper purpose. Although the patient is unable to reduce his rupture, he feels no immediate concern; he experiences no pain, and he flatters himself that the parts will by-and-by recede of their own accord. After the lapse of some hours, finding that there is no likelihood of spontaneous reduction, he seizes hold of the tumor, and for the first time perceives that it is sore and tender, without any disposition to restoration under the pressure of his fingers. The affection progresses; the characteristic symptoms of strangulation, local and constitutional, gradually set in, but several days elapse before they become urgent, and if the case be left to itself it may not terminate fatally or in the establishment of an artificial anus for the better part of a week. Indeed, it is surprising how long a patient may occasionally live under such circumstances.

There is thus, it will be perceived, a wide difference in regard to the progress and symptoms of these two forms of hernia,—a difference which necessarily suggests a difference of treatment for their relief. The one brooks no delay, whereas the other is often materially benefited by it. I have thus been particular in drawing your attention to this subject, which, as you will at once see, is of the greatest practical consequence. If this distinction were more generally recognized and acted upon, the death-rate of strangulated hernia, both in private and hospital practice, would, I am sure, be much diminished.

The methods of reduction in acute and chronic, or rapid and gradual, strangulation do not, as I endeavored to explain to you on a former occasion, materially differ. In both cases the object should be to liberate the constricted intestine at the earliest possible moment, before it has suffered any serious detriment, endangering its vitality or the patient's life. The acute form of the affection does not, as I have already said, admit of delay; the lapse of a dozen hours may be fatal both to part and system. Everything depends upon the correct understanding of the case and the prompt application of the surgeon's art. When this is properly directed, provided no precious time has been lost, a recourse to the knife will seldom be required. I speak advisedly upon this matter. In a practice of upwards of a third of a century, in which I have had my share of cases of strangulated hernia, it has not often been my lot to be compelled to resort to instrumental interference. With the aid of chloroform, which I always prefer to ether, as it is less liable to cause nausea and vomiting, and a proper position of the patient, almost any rupture, however severely strangulated, may, in its earlier stages, be successfully reduced in a few minutes.

There are certain preliminaries in the treatment of strangulated hernia which, if properly attended to, will greatly facilitate the efforts of the taxis. These have reference mainly to the bed- and body-clothes, the condition of the bladder, and the patient's posture. A firm, smooth mattress is far more suitable than a feather bed; when this cannot be obtained, the patient should

be placed upon a narrow table, or, what is preferable, upon a settee, or even upon the floor; no clothing should be allowed beyond the shirt or chemise; the urine, if need be, should be drawn off by the catheter, and if the large bowel is much distended it will be well to evacuate it with a stimulating enema of turpentine and castor oil. The system being thoroughly under the influence of chloroform, the next point is to relax the abdominal muscles, by free elevation of the head and shoulders, and by flexing the thighs as completely as possible upon the pelvis. In some cases it is necessary even to raise the hips. The thighs should be held rather close together than otherwise. There should, let me repeat it, be no halfway business with the chloroform. Nothing short of complete anæsthesia will answer the purpose. If the patient vomit while the taxis is in progress, the efforts must be momentarily suspended.

Everything being thus arranged, the surgeon, standing at the right side of the patient, grasps the tumor with his right hand, seizing it in such a manner as to enable him to draw the contents gently away from the opening through which they have descended. This, I conceive, is a very important step in the operation, and one that should always be executed with the greatest possible care; otherwise it might be attended with rupture of the bowel, especially when the strangulation is unusually firm or has existed for an unusual length of time. The hand, still grasping the tumor, is now employed to compress it, not rudely or by fits and starts, but in as steady, gentle, equable, uniform a manner as possible, the surgeon never for a moment losing sight of the important fact that he is dealing with inflamed and perhaps partially softened structures, liable, if not to rupture under the force of his manipulation, at all events to be seriously injured, if the pressure be too violent or improperly directed. Gradually, as the operation progresses, it will be found that the tumor begins to yield, generally first at its neck, by the escape of a little pent-up gas or fluid matter, and, after a little further effort, of its more solid contents. The return of the parts to the abdomen is generally accompanied by a peculiar gurgling sound, which, with the effacement of the swelling, is a sure sign of the success of the operation. It is only, or mainly, when the contents of the tumor consist exclusively of omentum, or when, as will be hereafter seen, they are pushed behind the peritoneum, between this membrane and the transverse muscle, that the sound in question is absent.

When the tumor is very large, as in scrotal hernia, it may generally be advantageously compressed simultaneously with both hands. Most commonly, however, no matter what may be its bulk, I grasp and hold it with one hand and use the thumb and fingers of the other for compressing the neck of the swelling, or that portion which lies nearest to the opening of descent, and consequently close to the seat of the stricture. Such a procedure is always of great use in emptying the bowel, whatever may be the size of the rupture. When the hernia is very small, pressure of the fingers takes the place of compression of the hand. The effect of this pressure upon the tumor and its contents may be compared, not inaptly, to that which is exerted upon the child during the progress of parturition by the contraction of the uterus. It is chiefly expellant.

These efforts, it may now be stated, should always be made in the direction of the descent of the hernia. In inguinal hernia of long standing, with unusual bulk, we can hardly go amiss in making it in a straight line, that is, directly from below upwards, owing to the changes which always take place, under such circumstances, in the relative position of the inguinal rings. In opposite conditions, as when the anatomy of the parts remains unaltered, the contents of the tumor must be pushed in an oblique direction. I am now speaking of these manipulations only in a general point of view. To particularize would carry me into the details of hernia as it occurs in different regions of the body.

The rules now laid down are, it will be seen, remarkably simple; indeed, it is difficult to conceive how they could be more so; and yet they are either not generally understood, or so awkwardly applied in practice that failure would seem, with many surgeons, to be the law, and success the exception. That this is the case I am led to believe from what passes so constantly around me, and from the reports in medical journals, both domestic and foreign, of the numerous operations performed for the relief of strangulated hernia. Perhaps one great reason why success does not more frequently attend the employment of the taxis is that most practitioners are destitute of experience, and consequently timid in the exercise of the requisite manipulations. Some men, too, naturally possess more tact than others, giving them thus a decided advantage over their confrères.

Although the supine posture is undoubtedly the most eligible for the speedy and satisfactory reduction of strangulated hernia, yet the judicious practitioner will not limit himself to it. On the contrary, he will not unfrequently find it useful to depart from it, and sometimes, especially when the symptoms are not urgent or the affection is not of long standing, he will even permit the patient to try his own hand at the reduction. I have repeatedly met with instances in which the patient's efforts were promptly successful after those of the surgeon had signally failed. The reason is obvious:—the surgeon is timid, inexperienced, awkward, if not positively bewildered; nay, it may be his first case. The patient, on the contrary, has perhaps been again and again in a similar condition, and, having often relieved himself before, his efforts are again crowned with success.

Inclining the body strongly to one side or the other occasionally greatly facilitates the reduction. In some instances the parts readily slip back when the pelvis is as it were thrown into the air, with the limbs strongly flexed upon the abdomen. Occasionally the reduction is promptly effected, after failure in the more ordinary posture, when the patient supports himself upon his knees and elbows. Another method worthy of trial is to apply the taxis while the patient is standing up, with the body strongly inclined forwards, the surgeon standing either behind or in front of him. Again, the object is sometimes more easily accomplished when the abdominal muscles are put upon the stretch than when they are relaxed. In obstinate cases, provided there be no great urgency of symptoms, all these expedients are worthy of trial. The adroit surgeon, like the sagacious general, must know when to make a strategic movement.

How long should the efforts at the taxis be continued? or, in other and more comprehensive language, how long can they be made with safety? Obviously, no definite rule can be laid down here. The nature of the case must determine the rule of action. If the symptoms are unusually urgent, as in acute strangulation, not more than five to ten minutes can be profitably spent in this way without doing mischief; the parts will probably be very tender and intolerant of manipulation, from their irritated and inflamed condition, and therefore unduly protracted efforts at the taxis cannot, under such circumstances, be too pointedly condemned. Instead of persevering in the use of the taxis, two things are to be considered: first, will the case admit of further delay, and consequently of another trial of the taxis, or has the strangulation caused such an amount of injury as to call imperatively for the employment of the knife? These are questions which are not always by any means easily decided. The amount of local and constitutional

distress is here, I conceive, of far greater weight than the mere duration of the strangulation or the time that has elapsed since the occurrence of the accident. If the symptoms are comparatively mild, if there is little nausea or vomiting, if the tumor is not very tense, painful, or intolerant of manipulation, there is no need of haste. The case admits of delay—of a further trial of the taxis. The contents of the tumor are still safe. The treatment is still expectant, and the first step is to place part and system in a perfect state of rest, to induce them, so to speak, to forget themselves, the surgeon hoping that while they are in this quiescent condition the stricture will relax its grasp and allow the parts to regain their natural position, or, if not thus fortunate, that a slight repetition of the taxis will accomplish the object. Ere yet the patient has, perhaps, fully recovered from the effects of the anæsthetic, a hypodermic injection of morphia is administered, followed by thirty grains of hydrate of chloral; the tumor is covered with a bladder partially filled with ice and placed over a piece of wet flannel; thorough relaxation of the abdominal muscles is maintained; the room is darkened; noise is excluded; and the patient is carefully watched. Sound and protracted sleep will be almost certain to ensue; at all events, perfect tranquillity, that quiet so conducive to relaxation of the system. After some hours,—three, four, five, or six,—the surgeon returns; he places his fingers upon the tumor, and finds, to his joy, that it is not only much less tender, but that it has undergone a marked diminution of tension and even of bulk. He moves his fingers gently over it, and, almost before he is aware of it, up go its contents. In another case matters are perhaps somewhat different. The anodyne and ice have relaxed the parts, but the taxis requires more force, and it may even be necessary to give chloroform again. Still, the operation is comparatively easy, the remedies have produced the desired effect, and the patient is safely relieved without the use of the knife.

The following case beautifully illustrates the value of this expectant practice when no urgent symptoms exist.

A young lady, twenty-two years of age, had labored under femoral hernia of the left side for several years. The tumor, hardly the size of a pullet's egg, had been securely controlled by a truss until the day before I saw her, when, in an attempt at lifting a table, the instrument gave way, and the hernia speedily became strangulated. Alarmed at the occurrence, she sent, a few hours after, for a physician in the neighborhood, who made repeated but fruitless efforts at reduction, both with and without the aid of chloroform. I saw the patient the next morning about nine o'clock; she was restless, and had occasional vomiting, but not of stercoraceous matter; the tumor was tense and tender on pressure. Being fully anæsthetized, I made a careful trial of the taxis, but with no better success than my predecessor. Seeing nothing urgent in the case, I gave half a grain of morphia, covered the tumor with a bladder of pounded ice, and ordered the room to be kept dark and quiet. On my return, at one o'clock, I found that the woman had had a long and tranquil sleep, and, upon making very slight pressure upon the hernia, the bowel slipped up with a distinct gurgling noise. Recovery occurred without a bad symptom.

It will be found, as a general rule, that cold applications make a much more salutary impression upon a strangulated hernia than warm. This is especially the case when the swelling consists mainly or exclusively of intestine. When the contents are omental, the effect is usually much less apparent. Ice, properly pounded and inclosed in a small bladder, is the most reliable agent. It should not be placed directly upon the skin, but through the medium of a piece of wet flannel; and great caution should be observed in its use, lest it should cause congelation and gangrene. When ice is not procurable, some refrigerating lotion should take its place.

Warm applications are most beneficial in weakly, anæmic persons of a nervous, hysterical temperament. Their use may often be advantageously combined with anodynes, and even with astringents, as sugar of lead or Goulard's extract, especially when the contents of the hernia are a good deal inflamed and tender. The most suitable applications of this kind are flannel cloths, properly folded, wrung out of hot water, simple or medicated, overlaid with oiled silk to retain the heat and moisture, and arranged so as to cover the whole abdominal surface. The applications should be maintained without intermission for a number of hours; otherwise little benefit will accrue.

A tobacco poultice has sometimes been beneficial in unlocking the stricture in strangulated hernia; but I have no experience with the remedy, and if I were to employ it I should watch its effects with the greatest possible vigilance.

Tobacco enemas are no longer employed as auxiliaries to the taxis; and, as to purgatives and emetics, they are, of course, out of the question.

Leeches and venesection are less employed at the present day than they should be. Independently of their relaxing effects, their use is clearly indicated whenever strangulation coexists with great local tenderness and a decidedly plethoric condition of the system. Their judicious employment under such circumstances cannot fail to diminish, in a marked degree, the dangers of gangrene in the protruded structures, and the occurrence of general peritonitis.

The warm bath is no longer used as an adjuvant to the taxis in strangulated hernia, chloroform having advantageously superseded its employment. In former times it was not uncommon to parboil the patient when thus affected, in the hope that, by relaxing the system, it would relieve stricture and thus facilitate the restoration of the hernia.

As to anæsthetics, I give a decided preference, in this form of affection, to chloroform over ether. While, with proper care in its administration, it is equally safe, it possesses the important advantages of greater promptness of action, and much less liability of unpleasant and protracted secondary effects, as nausea, vomiting, headache, and mental and bodily depression. Vomiting, in particular, should be sedulously guarded against in the treatment of strangulated hernia, on account of its injurious effects upon the constricted bowel, and the danger of a recurrence of the protrusion.

Chloral promises to be a most valuable remedy in the treatment of strangulated hernia, rapidly inducing sleep, and thus aiding powerfully in the relaxation of the system. It should be given in full doses, as thirty grains; and, if much pain exist, its beneficial effects will be greatly promoted by the co-operation of a hypodermic injection of morphia.

The late Dr. Seutin, Professor of Surgery in the University of Brussels, practised for many years, as an auxiliary to the taxis, partial rupture of the stricture. For this purpose he was in the habit of insinuating the point of the index-finger between the tumor and the point of resistance, and then, by a gradual but forcible effort, lacerating the stricture. I have repeatedly tried this expedient, but have seldom realized from it the advantages ascribed to it by the Belgian surgeon. From what I have seen of it, I am led to believe that it is chiefly applicable to cases of large hernia, tolerant of pressure and attended with comparatively little resistance at the seat of stricture. Under opposite circumstances it will generally fail, and might, besides, if not employed with great care, be followed by rupture of the bowel, especially when there is great distention from gaseous and fecal accumulation.

CLINICAL LECTURE

ON A REMARKABLE CASE OF DILATATION OF THE VEINS OF THE TRUNK AND UPPER EXTREMITIES.

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GENTLEMEN:—I ask your particular attention to the patient before you and to the analysis of his case; for the first is unusual, and the second will, I hope, illustrate the value of the *method by exclusion* in arriving at a probable diagnosis in obscure diseases.

J. H. was born in Ireland, is 51 years old, a laborer, married, and of temperate habits. He arrived in this country twelve years ago, and continued healthy until a twelvemonth since, when, after exposure to wet and cold, he began to cough, and had yellow sputa, but was not confined to bed. The cough lasted for nine months with almost its original severity, and then declined in urgency, but it still continues to be more or less annoying. There has been no hæmoptysis, but a progressive loss of flesh, which, however, is conspicuous chiefly in the lower limbs; they seem shrunken, while the face is full and even somewhat florid. The appetite and digestion are generally good; the bowels not very constipated; headache or giddiness has not been experienced.

On admission to the hospital he complained of sore throat and a difficulty of swallowing, resulting from a recent cold, and from these symptoms he was soon relieved; but the pulmonary expectoration became more constant, and the sputa were copious, dense, opaque, and greenish-yellow.

It is now a little more than a month since his admission, and his present condition may be described as follows: The *face* appears to be somewhat swollen, and is florid, but does not pit on pressure. The *eyes* are watery; *tongue* normal; *general condition* that of emaciation, but the arms appear to be less wasted than the legs; the strength of the latter seems unimpaired. The superficial veins of the upper limbs are very prominent, those of the lower extremities are scarcely visible. The femoral arteries pulsate strongly and tensely, and the internal inguinal glands are slightly enlarged. The internal saphena vein feels like a hard cord, and the same condition prevails throughout the superficial veins of the lower extremities; these vessels are not, however, impervious; on being emptied by pressure they rapidly refill. The abdomen is normal in size, shape, and sensibility; the epigastric veins are prominent, and their tortuous branches anastomose with the mammary veins, which are in like manner enlarged, and at several points their finer branches form varicose patches. The superficial veins of the neck are also distended, but not in the same proportion as those of the trunk; the veins of both upper extremities are equally enlarged, but are not rigid; neither are those on the anterior surface of the trunk, nor on its posterior aspect, which are likewise distended.

Percussion of the chest on the right side everywhere shows decidedly diminished resonance as compared with the left; and the expansion of the right side during full respiration is greatly less than that of the opposite side. On *auscultation* of the left lung the respiration is mainly puerile, while on the right side it is in general faint, harsh, high-pitched, and bronchial in character; but in the lower half, very feeble, and towards the apex expiration is much prolonged. Sonorous and other associated *rhonchi* are at times abundant throughout the left lung, but coughing generally causes them to cease. Near the apex of the right lung subcrepitus may be transiently heard.

The *heart* and præcordial region present no peculiarities except that the respiratory murmur can be heard, and a clear percussion sound elicited, over the entire organ. The *liver* extends from the sixth rib to a line two and a half inches beyond the edge of the chest. There is no tumor and no unnatural pulsation, nor any murmur, in the course of the aorta.

Such is very summarily a description of the past and present condition of our patient. Please to notice the emaciation of his lower limbs, the relative fulness of the upper portion of his body, and the distention of the superficial veins. The contrast between the two opposite portions of the body is very remarkable; the full and almost florid appearance of the face would not prepare you for discovering the exiguity of the legs. The face is full and round; it is not pale nor œdematous, for when I press upon it no indentation is left, and the bright color which is expelled while the pressure lasts instantaneously returns. The arms, too, you will remark, are not emaciated as the legs are, although they are to some extent wasted, and they present a still more remarkable contrast to the legs in the fact that all of their veins are dilated to an unusual degree. Observe, further, the varicose condition of the veins of the trunk, as it was described in the notes. The results of percussion and palpation of the liver, as there presented, would, at first sight, seem to show that the liver is enlarged. But this interpretation is not a legitimate one. Observe that the percussion sound elicited from the right lung above the line of hepatic dulness, and which is not positively, but only relatively, resonant, extends very low down, even to a line which traverses the centre of the epigastrium. And observe, also, that the zone of absolute flatness below this line, and which must represent the thickness of the liver, is not more than three inches wide, or, in other words, of an extent which may very fairly be taken to represent a liver of the normal size. It appears, then, that the projection of the liver beyond the ribs is owing not to an enlargement of that organ, but to a displacement of it by pressure from above,—that is to say, by pressure from within the chest. And when we observe that the right side of the chest is contracted, and that the action of the corresponding lung is interfered with, it becomes evident that the liver is thrust downward by the contracted lung, so as to be felt beyond the base of the chest.

But what, you will ask, has this demonstration to do with the dilatation of the superficial veins which is observed in our patient? It would be strange if they had not some relation to one another, for until the acute attack of pulmonary disease the man enjoyed excellent health; and, since that occurrence, he has never been well, and the symptom which we are aiming to explain has made its appearance. When it did so cannot be precisely determined, for the man himself was not aware of its existence; but he assures us that he suffered no pain or palpitation of the heart, had no swelling of the feet, nor any symptom which could be directly referred to the central organ of the circulation. What, then, I repeat, is the cause of this singular distention of the veins?

It is plainly due to some obstruction of the circulation through those vessels. Every one who has attended the clinics of a large hospital grows familiar with a form of enlargement of the superficial veins of the abdomen and the adjacent portion of the thorax, which is associated with and caused by cirrhosis of the liver. In that case an obstacle to the circulation of the blood in the portal vein and through the liver throws the current into the superficial channels, the epigastric and mammary veins. But in the present case there is no evidence to prove that the liver is either contracted or distended, but proof only that it is displaced. There is no dropsy of the peritoneal cavity, which there would almost inevitably be if such an enlargement of the abdominal veins as we here observe were due to hepatic obstruction. It follows, therefore, that there is no evidence to prove that the liver is cirrhosed in the case before us. But more than this: even if cirrhosis of the liver existed, and caused the dilatation which we observe of the abdominal veins, it could in no wise explain the other and much more singular dilatation of the veins of the upper extremities. Consequently both positive and negative evidence disprove the presence of a cirrhotic liver in our patient's case.

Nevertheless, as was before remarked, it is evident that the circulation of the blood through the main venous channels of the trunk is in some manner hindered, and it is equally certain that the obstacle must be seated either in the veins or upon them. Cases of the former class are numerous, the most common being due to the formation of a clot from phlebitis; but the symptoms of that affection are severe and peculiar, and none of them have existed in our patient's case. As to external obstacles: pressure upon the vena cava may be exerted by various tumors, as aneurisms of the great arteries along the course of the vein. Cancerous, scrofulous, and other tumors of the posterior mediastinum may compress the veins in question. Have we any evidence that an aneurismal tumor exists here? We have examined all of the large arteries and discovered no evidence of disease in any of them; neither hardening nor any murmur. This evidence is, indeed, very indirect; for an aneurismal tumor may affect the thoracic aorta without betraying its existence by a single rational symptom or physical sign. But with such possibilities we have, at present, no concern; we have only to inquire whether the phenomena of the case before us can be explained by the supposition of an aneurism of the thoracic aorta. Now that portion of the great artery lies well to the *left* of the spinal column, and an aneurism of moderate size affecting it could, therefore, not possibly press upon the ascending and descending venæ cavæ which lie upon the opposite side of the bodies of the vertebræ. And if it were of such size as to exert pressure upon so comparatively distant an organ, it must also, of necessity, reveal its dimensions and nature by disturbing the functions of the lung, by its pulsation, percussion dulness, thrill, and other signs of superficial aneurisms. None of these signs are present here, and therefore the supposition of an aneurism may be dismissed. Again, is a cancerous mediastinal tumor the cause of the appearances we are studying? There is nothing in the history of the patient to suggest such a disease, and he certainly presents none of the peculiarities ascribed to the cancerous cachexia; a condition very ill defined, it is true, and often absent in cases of unquestionable cancer. We cannot, therefore, assume the presence of such a disease to be probable here.

On the whole, the hypothesis of a pressure of some sort upon the venæ cavæ appears to be the only tenable one; and, adopting it for a moment, let us see how far it will serve to explain the facts of the case. Pressure upon either the superior or the inferior vena cava alone would be insufficient to explain the enlargement of the veins of the upper extremities as well as of the entire trunk; the pressure, whatever it is, must act upon both veins at the same time. But to do so, where must it be situated? Evidently in the posterior mediastinum, to the right of the spine, in the space which includes the upper and the lower venæ cavæ and a portion, also, of the right auricle, into which they empty. The vena cava superior, you will remember, empties into the upper and right-hand portion of the right auricle; the vena cava inferior empties into the same cavity upon its opposite or lower side; the auricle lies between the two veins and is, indeed, continuous with them. If, now, according to our hypothesis, pressure is made at one and the same time upon both the veins and upon the auricle, it must be made by a body of considerable extent.

Can we, then, form a well-grounded conjecture as to the existence and nature of such a compressing cause in the case we are studying? Going back to the history of its acute phenomena, we again encounter the fact which I have several times emphasized, that the patient suffered from no acute disease except that which we have recognized as pleuro-pneumonia with bronchitis. Can we, in these facts, discover any link between the acute pleuro-pneumonia on the one hand and the distended veins and an obstructed vena cava upon the other? It is not, I imagine, difficult to find. If the patient had an inflammation of the right pleura, it may have produced a very thick plastic effusion along the right side of the spine, within the pleura chiefly, of course, but not impossibly, also, externally to that membrane, on the right side of the posterior mediastinum. This effusion, or exudation, rather, gradually became more dense as the general pleural effusion was absorbed (which we learn from the contraction of the side), and in proportion as it hardened it compressed the venæ cavæ and right auricle, hindered the return of blood through them to the heart, and consequently occasioned a distention to a greater or less degree of the veins of the upper extremities, the head, and the entire trunk. This theory, which is constructed partly out of the manifest physical phenomena of the case, and partly by a process of deduction from results which are apparent in the case, appears to fulfil all the conditions of a sound or true theory, and therefore I adopt it, and ask you to accept it also.

One other point only remains to be noticed, and I dare say it may have presented itself to the minds of some among you as an objection to the theory I have endeavored to establish. The *legs of our patient are not swollen at all, nor are their veins distended.* You will have good reason to suggest this peculiarity of the case as an objection to the view of its nature which has been set forth, and ask how it is possible that the obstruction I have supposed should really exist without occasioning swelling of the legs and distention of their veins. I might give several reasons why it should produce no such effect; they might be good or they might be bad reasons, but I will not use them now, for it is a serious task to attempt to prove a negative. In clinical teaching I imagine that clinical arguments are the best; and I therefore shall quote for you the only case I have knowledge of in which such an enlargement of the cutaneous veins was present as you observe in our patient. Dr. Léon Parisot has published an account of this case, and the following extract from his narrative will exhibit its analogy with our own:

"A woman, sixty-eight years old, died with all the symptoms of rapid congestion of the lungs. She had had a trifling œdema of the left leg. The surface of the chest and of the abdomen was covered with a network formed by distended superficial veins, some of which were as large as a quill. There was no ascites, nor enlargement of the liver, nor any albumen in the urine. On examination *post mortem*, it was discovered that the inferior vena cava was impervious from a point just below the renal veins, and the first-mentioned vessel, as well as the primitive iliac veins, was converted into a fibrous cord."—(*Archives Gén.*, Juin, 1869, p. 742.)

In this example complete obliteration of the inferior vena cava did not occasion dropsy of the lower extremities; there is no reason, therefore, why it should have done so in our own case. If you still desire to have a rational explanation of the peculiar phenomenon which presented itself in both of these cases, the absence of dropsy of the lower limbs although the vena cava was obstructed, you will find it in this consideration, that the obstruction in the main channel of venous circulation must have taken place slowly, and that, just in proportion as it increased, the channels of collateral circulation, the superficial veins of the abdomen among them, became gradually dilated, and that consequently there was at no time such a distending force acting upon the veins as must cause a transudation of their watery contents and the formation of dropsy or even œdema.

I have analyzed the case, gentlemen, and you have the result. If my conclusions are correct, the prognosis is doubtful. If the exudation which I suppose to exist should be absorbed, the circulation may return to its normal channels; but the chances are that the exu-

dation will become more dense and interfere still more seriously with the circulation than it does at present. The immediate object of treatment should be to remove the bronchitic complication, and thus enable the blood to be more perfectly aerated than it is at present. Since the patient entered the hospital he has used, for this purpose, an emulsion of copaiba, and with decided advantage, so far as his cough and respiration are concerned. In addition, we must endeavor, by good food, and perhaps by tonics, to bring the organic functions into as high a state of activity as possible, and thereby promote the removal of the exudation which we have concluded to exist at the root of the lung, and to constitute, anatomically, the patient's disease.

NOTE.—The subsequent history of the patient, and the mode of his death, which took place several months afterwards, cannot now be determined; nor can any details be given of the examination p. m., except that there was a total absence of all lesions besides contraction of the right side of the chest, old and universal pleuritic adhesions, and a large accumulation of fibrinous exudation at the root of the lung.

ORIGINAL COMMUNICATIONS.

EXCISION OF THE OS CALCIS.

BY HUNTER McGUIRE, M.D.,
Professor of Surgery, Virginia Medical College, Richmond, Va.

AS comparatively few cases of entire excision of the os calcis have been reported, and as the removal of this bone is still regarded by some eminent surgeons with but little favor, I think the following cases will prove of interest:

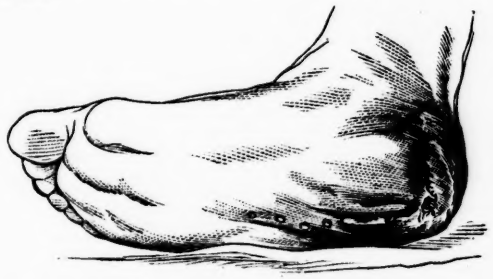
Case 1. John H., æt. 21 years, from New Kent Co., Va., was wounded in the left heel by a nail in October, 1867. He states that the nail was driven with great force into the bone, and that abscesses formed, which were permitted to open themselves. In May, 1868, he applied to me for treatment. Nearly the whole of the os calcis was found to be carious, the disease extending, as was afterwards ascertained, to the astragalus.

On May 23, 1868, I excised the os calcis and a small portion of the astragalus, adopting the method recommended by Mr. T. Holmes. An incision was begun at the inner border of the tendo Achillis and carried horizontally around the back and outer surface of the foot, upon a level with the upper edge of the os calcis, to a point midway between the heel and the base of the metatarsal bone of the little toe. The tendo Achillis was divided and the knife carried down to the bone until the incision was nearly completed, when, to save the peronei tendons, the skin and fascia only were cut through. A second incision, beginning near the anterior end of the first, a little in front of the external malleolus, passed vertically downwards, across the sole of the foot, and terminated near the inner border of the os calcis. Care was taken not to prolong this far enough to wound the posterior tibial vessels. The flaps thus made were thrown back, the peronei tendons held aside, and the joints between the os calcis, cuboid, and astragalus laid open. The bone was then dislodged by means of the lion-forceps, and carefully dissected from the soft parts covering its inner surface, the knife being kept close to the bone to avoid injuring the vessels. In Mr. Holmes' operation the tendons of the peronei muscles were divided. While this is probably not a matter of much consequence, it seems to me unnecessary. A small strip of lint was introduced into the cavity and brought out through the horizontal incision. The vertical wound was closed by means of wire sutures, and the parts supported with strips of adhesive plaster. The loss of blood was slight, no ligature being required. No splint was used in the after-treatment. The foot was laid upon a pillow covered with oil-silk, and for a few hours kept bathed with cold water. The vertical incision united by the first intention. The cavity filled up slowly, and was injected daily with a weak solution of carbolic acid. On August 1, he walked out on his crutches; on the 25th, he could bear some weight upon the limb, the wound being entirely closed; January 14, 1869, walked without assistance, limping slightly. In August, 1869, he paid me a visit, walking some miles to see me. The lameness is very trifling; can flex and extend the foot easily. He says "his left foot is as good as the other."

Case 2. Novell H., a rather delicate subject, æt. 17 years, came to see me in September, 1868, with caries of left os calcis, the result of a blow from a cricket-ball, received eight months previously. Abscesses formed and were opened, but continued to discharge. September 26, os calcis excised by method described in first case. The bone was so far destroyed by caries that it was difficult to recognize by its shape. No ligatures were required. The flaps were brought together and the same treatment pursued as in the first case. No splints used. That night slight hemorrhage occurred. The dressings were removed and the cavity injected with ice-water: this arrested the bleeding. October 2, erysipelas set in violently. The foot became red and swollen, and the constitutional disturbance very great. Sloughing of the integuments near the horizontal incision took place. The wound was now kept continually wet with cloths dipped in equal parts of whiskey and water; and tinct. ferri chlor. and Fowler's solution of arsenic were given internally. As it was difficult to empty the cavity of the illaudable pus which formed there, I made a counter-opening on the inside of the foot. The inflammation subsided in a few days, and the cavity began slowly to fill up. November 5, walked out on his crutches. December 10, wound closed. March 1, 1869, walked without assistance. At this time, July, 1870, he can flex and extend the foot readily, and walks with very little lameness. He says, "I limp a little, but not enough to attract attention; I can run or hop upon my foot without the slightest discomfort." The picture (from a photograph) will show the amount of flattening of the heel and the appearance of the foot. The irregular appearance of the cicatrix is accounted for by the integumental sloughing referred to.

Case 3. George C., æt. 23 years, wounded at Spottsylvania C. H., May 12, 1864, by a shell, which carried away the left foot above the ankle and crushed the heel of the right foot. That evening Dr. Straith, Chief Surgeon of the Artillery of the Second Corps, amputated the left leg in the lower third. Although the wound in the soft parts of the right heel was not serious, the os calcis was so extensively comminuted that its removal was necessary. A vertical incision was made, beginning on the inner side of the tendo Achillis, carried down to the point of the heel, and then forward along the middle of the sole of the foot to a point opposite the calcaneo-cuboid articulation. The flaps were turned aside, the tendo Achillis cut loose, and the pieces of bone picked out, until the whole of the calcaneum was removed. The after-treatment was of the simplest kind, and the man's recovery rapid. No splints used; cold-water dressing, and the cavity injected with some simple detergent lotion. September 1, walked about on crutches, bearing his weight on the foot. The wound healed entirely by October 10. I saw the gentleman upon the street a few days ago, and pointed him out to a professional friend (himself a close observer), and told him the man wore an artificial leg. He expressed some surprise at the information, as the man's gait upon the level pavement was so natural. I then informed him of the loss the man had sustained in the opposite foot. This he could scarcely believe, so smooth and natural was the man's movement.

The picture shows the amount of deformity in this case. The foot is turned up upon its outer edge, to show the cicatrix.



In all of these cases the tendo Achillis formed a new insertion, and acted in raising the heel. Probably it became attached to the dense callous fibrous or osseous tissue which filled up the cavity left after the removal of the bone.

In connection with this subject I will state that my attention has been attracted several times to the very slight lameness following complete destruction of the tendo Achillis. I have been surprised at these results, because the teachings of Moreau and others led me to believe that great and permanent lameness inevitably followed destruction of this tendon. Moreau even goes so far as to state that "it is better to amputate the foot if the tendo Achillis is to be destroyed." I have lost the notes of several cases of this kind which I observed during the war, but I will mention the two following, as my recollection of them is very distinct.

The first was a Confederate major-general, shot at McDowell, May 8, 1862. The ball entered the outside of the leg, fractured the fibula about its lower third, and passed out upon the opposite side of the limb. I enlarged the wound of entrance and removed several detached fragments of bone. Phlegmonous erysipelas attacked his leg soon after the injury, and resulted in extensive sloughing. The tendo Achillis died, was separated by the process of the disease, and was removed with the forceps. This gentleman recovered after a tedious illness, and although he has a slight limp it is so trifling that it is difficult to tell from his gait the wounded from the sound leg.

The second case was that of a soldier wounded at Winchester by a fragment of shell. The missile tore out between three and four inches of the tendo Achillis, with the soft parts covering it. After some months the man walked with a very slight limp.

Whether, after such a loss as I have described in the two foregoing cases, nature supplies some adventitious tissue which takes the place of the tendon; or distributes the force of the contraction of the soleus and gastrocnemius upon the tendons of the peroneal and tibial muscles; or gives to the last-named muscles increased size and strength; or whether two or all of these circumstances are combined to enable the patient to raise the heel in walking, I do not pretend to say.

NOTE ON THE CONSTANT CURRENT IN CHRONIC METRITIS.

BY ROBERTS BARTHOLOW, M.D.,
of Cincinnati.

MEYER, in his treatise on Medical Electricity, makes it a reproach to gynecologists that they have paid so little attention to the applications of electricity in their special fields of practice. It is only necessary to look over any of the works devoted to the diseases of females, or to medical electricity, to learn how exceedingly meagre the information is on this subject. Duchenne,* Remak,† Benedikt,‡ and Morgan§ do not allude to the application of electricity in gynecology. Meyer has the following observations:

"Finally, the electric current has been used, especially by the French physicians Beauvain, Fano, Tripier, Beau, and others, for the removal of chronic swellings of the uterus, and its subsequent descent and dislocation,—observations worthy to be investigated, in consideration of the evils so frequently following the use of the sound and other means usually employed against flexions."‖

That the condition of the uterus known as *chronic metritis*, whatever views may be entertained as to its real nature, is most difficult to cure, is now generally admitted. The means of treatment now employed,—sponge or laminaria tents, applications of iodine, chromic acid, etc., extra- and intra-uterine cauterizations, incisions, etc.,—although more or less successful if persevered in, are not free from danger, and certainly involve an amount of troublesome manipulation not willingly submitted to by many patients, and not easily practised, except by experts who devote themselves to gynecological practice. Gynecologists themselves are by no means agreed as to the relative utility and safety of the means now used, and ingenuity is exhausted to invent apparatus which shall render the before-mentioned expedients safe, and to suggest treatment which shall be more successful. It must be considered desirable, then, to arrive at a means of treatment which will be at the same time effective and easy of application. Some experiences I have had with the constant current incline me to believe that we have in this a remedy to accomplish these important objects. Before narrating some of the cases on which I base this conclusion, it may be desirable to state the mode in which the constant current acts, and also give some account of the "Technik" of the operation.

The constant current has the power to induce contraction of the organic muscular fibre. This has been shown to take place in the arterioles when the superior cervical ganglion of the sympathetic is included in the circuit, as Hammond has demonstrated by ophthalmoscopic examination of the vessels of the retina. When the uterus is included in the circuit, slow contractions of the organ take place, with more or less distinctness, according to the degree of development of its muscular fibre, and these contractions are felt for some hours after the application. I need not stop to dilate on the therapeutic utility of such an action as this in an organ subject to chronic enlargement. According to some pathologists, the enlargement of the uterus is due chiefly to hyperplasia of the organic muscle; according to Virchow and his followers, to hyperplasia of the connective tissue. It is probable that the latter, together with increased blood-supply, constitutes the condition known as chronic metritis. If this view be correct, it is not difficult to conceive how firm contraction of the organic muscular fibre will promote absorption of surplus material and diminish the blood-supply.

Besides this action of the constant current, we must not lose sight of the effects first described by Remak as "catalytic,"—the chemical and resolvent effects. When the electric current is passed through a part, it tends to disturb the molecular arrangements in accordance with the laws of electrolysis. The brilliant results obtained

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* De l'Electrisation Localisée. Deux. Ed. Baillière, Paris, 1861.
† Galvanothérapie, par le Doct. Remak. Trad. par Morpain. Baillière, Paris, 1860.
‡ Elektrotherapie von Dr. Moritz Benedikt. Wien, 1868.
§ Electro-Physiology and Therapeutics. New York, Wm. Wood & Co., 1868.
‖ Medical Electricity, Hammond's Translation, p. 459.

in this way by Remak during his life were discredited, and it was not until near the close of his career and after his death that the correctness of his views began to be acknowledged. These catalytic effects are now so generally admitted that it is unnecessary to waste space by a statement of the facts in support of them. They can be no more denied as occurring in the uterus than in any other organ which may be thus electrized.

As the constant-current battery is not sufficiently portable to be easily transported, the application of the current will be convenient only in office practice. Besides the battery with its appliances, an extension chair and a glass speculum are required. The positive pole is introduced through the speculum and placed in contact with the *os uteri*, and the negative pole is applied to the hypogastrium. If metallic rheophores are used, from ten to fifteen of Smee's elements are sufficient. I use, preferably, sponge-covered rheophores and sixty elements of Smee (Kidder's apparatus). The *séances* are from five to ten minutes in duration, and are repeated two or three times a week. As but little uneasiness is experienced at the time of the application, and as the contractile pains which come on afterward are by no means severe, women do not object to this mode of treatment, especially those who have been subjected to the manipulations practised by gynecologists.

Case 1. Mrs. G., æt. 40, mother of three children. Soon after birth of last child, four years ago, began to suffer with severe hypogastric and iliac pains, a sense of internal burning, obstinate constipation, and irritable bladder. She declined much in health, lost flesh, and became almost bedridden. The late Dr. J. F. Potter, of this city, who was called upon to treat her when she was reduced to this condition, diagnosticated *retroversion*, and introduced a Hodge's pessary. This gave so much pain it had to be abandoned. She went to Europe, visited the baths, and was treated by various gynecologists, among others by Scanzoni. On her return home she was in the hands of various physicians of New York and Cincinnati, with little benefit. When she came under my care I practised the usual methods: gave tonics, ergot, and arsenic; applied iodine to cervix and chromic acid to cervical canal; directed the hot vaginal douche, etc., with as little success as my predecessors in the treatment of the case. I then determined to employ the constant current, in the manner already indicated. Her condition at this time was as follows: Uterus retroverted to the second degree; corporeal and cervical metritis, cervical endometritis; body exceedingly tender; length of canal, 3¾ inches; menstruation profuse, lasting five or six days, and occurring every three weeks; severe bearing-down pains and deep-seated burning; constipation and great gaseous accumulation and frequent eructations.

When the poles of the battery were applied, she experienced uterine pains, which, although quite endurable, she likened to pains of first stage of labor. These lasted for some hours afterward at first, but gradually decreased in severity and duration. Decided improvement took place, first shown in the increasing facility with which the uterus could be restored to its true position by the sound, and by its slow instead of the former rapid return to its abnormal position; by the cessation of the burning and the intestinal disturbance, and by the freedom of walking-exercise from the unpleasant "bearing-down pains." After three months of the treatment by the constant current, the length of the canal is reduced to 2¼ inches, and the uterus is nearly, if not absolutely, in its true position.

Case 2. Mrs. W., æt. 32, and mother of one child eight years old. Has a rheumatic diathesis, and has suffered from two severe attacks of acute rheumatism. Has had uterine trouble five years, has been cauterized for ulceration, and has had iodine applied to cervix, and iodo-tannin by tampon.

Her general health is at present good. She suffers a great deal from "bearing-down pains," irregular but severe pelvic pains, referred chiefly to right side, irritable bladder, and constipation. Uterus retroverted to first degree. Os low down on perineum. No ulceration of cervix; slight endo-cervicitis. Body of uterus much enlarged and tender, and deflected to right side and posteriorly. Length of cavity, 3¼ inches.

After two months of treatment with constant current, uterus is restored to normal position; length of the cavity reduced to 2½ inches; pelvic pains have disappeared; and can take long walks without experiencing sense of "bearing-down."

Case 3. Miss W., æt. 30, a pale, small woman, of very marked nervous temperament. Has had uterine trouble, accompanied by distressing nervous symptoms. This case, as Case 1, was correctly diagnosticated by the late Dr. Potter, of this city, as one of *retroflexion*. After Dr. Potter's death, she was treated by a movement-cure physician, but received no benefit. This treatment consisted in part of electric baths. When she came into my hands, she was excessively nervous, but was in tolerable health. Menstruation regular, but scanty and excessively painful. Cervix and os normal. Uterine probe introduced with great difficulty, in consequence of the extremely acute angle at the seat of flexion. Body of uterus extremely sensitive to pressure.

She is still under treatment, but much improved after one month of localized electrization. Uterus is returning to its normal position. The uterine probe can now be easily introduced, and the body of the organ is much higher up in the concavity of the pelvis. With this change in the position of the womb there has occurred a corresponding improvement in the state of the nervous system.

I might bring forward other cases, but these will suffice to exhibit the great utility and advantage of this method of treatment. I recommend it to the consideration of my professional brethren.

A WELL-MERITED TESTIMONIAL.—In May last, Dr. John Conrad, for nearly forty years apothecary to the Pennsylvania Hospital, resigned his post. It was determined by those who had been, as attending or resident physicians and surgeons to the institution, associated with him, to express, by a suitable testimonial, their sense of his valuable services, and their esteem for him as a friend and fellow-worker.

A purse of seventeen hundred dollars was made up by these gentlemen, and handed to Dr. Conrad, with the request that he would make whatever use of it might be most agreeable to him. We understand that he is contemplating a visit to Europe.

Dr. Conrad has not only fulfilled the duties of his post most faithfully and efficiently, but his tact and geniality have endeared him to all who have been connected with the hospital. His careful and accurate meteorological records are of great value, from the long period over which they extend; while his success as a cultivator of flowers will be remembered with pleasure by many of those who, as students, have enjoyed the beauty of the grounds of the institution he has served so well. It is seldom indeed that such a tribute is so cordially rendered, or so thoroughly deserved.

WE learn with pleasure of the approaching appearance of a *Treatise on Military Surgery*, by George A. Otis, M.D., Assistant Surgeon and Brevet Lieutenant-Colonel, U.S.A. The work is nearly completed, and will soon be published as a handsome octavo of 900 pages, well illustrated by wood-cuts. It will contain a discussion of the principles and practice of military surgery, a digest of the results of injuries and operations in modern wars, and a review of the conclusions derived by the talented author from the study of the surgical annals of the late war, and from an experience of three years of service in the field. Dr. Otis is already so widely and favorably known by his reports on military surgery, that we shall look forward to the publication of his promised work with high expectations.

THE MEDICAL TIMES.
A SEMI-MONTHLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

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SALUTATORY.

IN entering upon the publication of the MEDICAL TIMES, we are but realizing a plan which has long been entertained by the medical profession in Philadelphia, and supplying, we trust, a want which has been long felt here, and perhaps in other places. Much has been said of late—and with great force and truth—against the tendency to the needless multiplication of medical journals in America. It is indeed true that their large number and the varied character of their contents render it a heavy tax upon the active practitioner to read with care even the communications which bear upon the branch of medical science in which he is particularly interested. It may also be true that their excessive number has a tendency to favor the publication of hasty observations and immature conclusions, and to oppose the deliberate and well-considered preparation of elaborate treatises and exhaustive monographs. But the present day is, however, one of progress in medical science,—of progress so rapid as to be unprecedented in its annals. And one of the most essential requisites for the continuance and reality of this advance is that of numerous channels for the free and rapid communication between medical workers in every place. To enable medical science to be cultivated with the utmost success; to avoid waste of time and labor in endless repetition of experiment; to prevent tasks already accomplished from being again undertaken; to furnish every worker with the most recent observations and discoveries—such are some of the imperative wants which can alone be met by the publication of numerous journals at the shortest possible interval. The entire medical world is animated by a common desire and enthusiasm; the aims of all are identical, and in every medical community the same questions of vital importance are being studied and investigated. Even the shortest delay in the communication and diffusion of every new fact acquired is, therefore, a positive loss. The hoarding-up and retention of new and important observations is a wrong to the medical world; the latest discovery of a few days ago should already be the common property of all, and the recognized starting-point for all further study of the subject involved. This liberal, free, and prompt interchange of thought and observation between individual workers is, indeed, the very essence of the intense vitality and rapid progress of medical science at present. Every large medical community, therefore, including numerous workers, both in scientific and practical medicine, absolutely needs a suitable organ for the expression and diffusion of the results there attained. The precious opportunities for observation and study afforded by the sad wards of metropolitan hospitals are embraced with devotion and untiring zeal by the most able and experienced physicians and surgeons, who, while giving freely their time and skill, reap a priceless reward of knowledge as the result of their labors. It is not even sufficient that such results should be presented at the meetings of the many large and active societies which now abound in every medical centre. The transactions of these bodies include many of the most important and valuable additions to medical knowledge, and they too need channels for the prompt publication and wide distribution of their proceedings. Such channels can alone be afforded by medical journals appearing at short intervals.

There is still another and a most important function of medical journals, to which attention may be attracted, the more so as it has unfortunately been much neglected in this country. The medical profession in America constitutes an enormous body, with varied, numerous, and important interests; with responsibilities and duties of grave weight; and with prerogatives and rights which fairly merit recognition and protection. It is all-important that these interests should be zealously guarded; these responsibilities and duties openly recognized under all circumstances; these rights fearlessly defended, and the protection they merit urgently claimed whenever they are invaded or assailed. It is only through the agency of journals of recognized and representative weight that the profession can be influenced upon such subjects and roused to adopt a concerted position and plan of action. Again, the activity which is now manifested in scientific and practical medicine scarcely exceeds that which is directed to the consideration and discussion of questions of general interest, but bearing forcibly upon the medical profession. The gigantic scale of American life gives a vast importance to all questions of hygiene,—as of ventilation, of hospital construction, of sewerage, of the supply of water and food and the impurities and adulteration of these prime necessities, of the value of vaccination, as well as to all questions of medical jurisprudence, of medical education, and of the relations of the professional man to the citizen and to the state. The fullest and most comprehensive discussion of all such questions is required, and in such discussions a large part must necessarily be borne by medical men, while concerning some of them it is of vital importance to the medical profession at large that the most sound and wise views should be widely disseminated. It is in regard to this—the highest function of a medical journal, as being the means of influencing the professional and public mind on questions of the highest and most general interest—that American medical journals have more than once been accused of failing to fulfil their mission. There can perhaps be special reasons urged in explanation of this defect, but, in order that the accusation

may no longer be applicable, it needs only that the attention and efforts of those be enlisted who have devoted special consideration and study to such topics, and who therefore will be capable of treating them fully and in a practical spirit.

It is, then, with no uncertain aim that THE MEDICAL TIMES enters the field of medical journalism. The cordial encouragement and cheerful support it has met from the profession in Philadelphia assure us of its position as their representative organ, while the reception the proposal has met with from physicians in other parts leads us to hope strongly for their support also. We have said that the medical profession here has long felt the want of such a journal; and it has been with good reason. The number of physicians in this city is unusually great, and includes many zealous workers, not only in practical medicine and surgery, but in experimental medical science. The hospitals of the city are numerous and large, and are served by a medical corps eminently qualified by education, capacity, and zeal. The medical societies have rapidly multiplied in size and number, and manifest great and increasing activity in the cultivation of medical science and art in all its branches. The position of Philadelphia as the oldest seat and one of the chief centres of medical teaching on this continent, and the great weight which must attach to the action and position of the profession here in regard to the important questions of the day, also render it highly desirable that they should be represented by a journal which may worthily take its place in the ranks of medical publications.

Actuated by this feeling, a meeting of over one hundred physicians, including the most eminent and active members of the profession in this city, was held in April last, and the publication of THE MEDICAL TIMES was then unanimously determined upon. The most ample assurance as to the value and variety of the original contributions that its columns will contain is afforded by the list of these names, as well as of those distinguished authors in other cities who have freely promised their aid.* The Editorial Department has been intrusted to a single editor, who will be ably assisted in his labors by a numerous corps of experienced associate editors. Its publication has been undertaken by the well-known house of Messrs. J. B. Lippincott & Co., whose reputation, liberal enterprise, and large capital insure the permanency of its issue in the most handsome and attractive style.

THE MEDICAL TIMES, therefore, appears as the result of no mere private enterprise, nor as the organ of any school or party, but as a journal which may fairly claim to represent the medical profession and medical interests in Philadelphia.

This is, however, far from being its sole object. The position to which it aspires is one free alike from local interests and from partisan spirit. The only aims which shall be recognized in its management are the advancement of medical and surgical science, the detection and reform of abuses, and the promotion of the interests of the profession at large. Animated by such aims, we ask for it a welcome, not only from the physicians of this city, but from those of the entire country.

* See Prospectus, p. v.

CORRESPONDENCE.

LETTER FROM VIENNA.

August, 1870.

"WHAT courses of lectures are you going to take?" is the question which first greets every stranger who visits Vienna with the intention of pursuing his medical studies at this university. That the question is a difficult one to answer is proved by the puzzled expression on the faces of the groups of students, evidently fellow-countrymen, who may be seen at all hours standing under the arched entrance to the General Hospital, studying the official announcement of the numerous courses of lectures to be delivered during the Semester. Indeed, even to one who has already spent some time in Germany and is somewhat familiar with the routine of a foreign university life, it is a matter of no little difficulty to arrange a daily schedule so as to embrace the desired courses of lectures. Every hour in the day can be advantageously occupied within the walls of the hospital; and it is in this *centralization* of instruction that we all recognized one of the great advantages of Vienna over Paris or even Berlin.

As no didactic lectures are given, every effort has been made to perfect the system of bedside instruction, and in the clinical wards of Professors Oppolzer and Skoda this method can be admirably studied. Each professor has under his control two large wards, filled with only such cases as present clinical interest. The immediate control devolves upon two assistant physicians, who hold the appointment for seven years, have comfortable rooms and board in the hospital, and receive a small salary, with the privilege of delivering private courses in the wards. To each patient two students, who have completed their fourth year of study, are assigned, whose duty it is to furnish a minute clinical history of the case, with the results of the physical examination and diagnosis, which is thoroughly criticised by the professor at the morning visit, and followed by a bedside lecture which often lasts two hours. The subsequent history of the case is recorded by the students, and is frequently examined by the professor; and woe be to those who are found wanting, for they are handled without gloves. Nothing could exceed the advantages of such a system with small classes; the student is brought into personal contact with the professor, the habit of close observation and accurate interpretation of phenomena is formed, and facility in the examination of patients and familiarity with the exhibition of remedies must ensue. In Vienna, however, 258 students are registered at Professor Oppolzer's clinic, exclusive of the large number of foreigners. It is with difficulty that thirty students can group themselves around the bed near enough to see the patient whose case is being clinically considered; others stand at a distance or endeavor to secure a good position for the case which is next to be examined; while a large number scattered around the wards, sitting on the beds of the unfortunate patients, almost drown the voice of the professor by chatting over the last exciting

topic of their student-life. I am always reminded of one of John Leech's inimitable pictures, where two "street Arabs" are represented as peeking under the tent of a circus, one of whom, with a face of delight, calls out, "Oh, only come here—you get an elegant view of the *hoofs* of the horses!" So, too, at the clinic, after pushing and elbowing your way for half an hour you *may* get a good view of—the bedpost. Professor Oppolzer has recently received the well-earned honorary title of "Hofrath." It is unfortunate for his reputation that his aversion to publication has been so great that he has suffered much of the work done in his wards at his suggestion and under his immediate supervision to appear in the names of his former assistants, many of whom now fill important chairs in the smaller universities. His son-in-law, Ritter von Stofella, has undertaken the publication of his clinical lectures, in parts published at irregular intervals, the first three numbers of which have already appeared; and nothing can exceed the clearness and exactness with which the diseases of the heart and lungs are treated. Skoda's clinic is the most popular with the Germans: he lectures as he writes,—in syllogisms; the dry facts are presented, relieved by no comments, but step by step you are logically led to an inevitable conclusion.

"You will find," said a friend of mine to me, "that it is not from the men with whose names you are most familiar that you will learn the most." The name of Rokitansky will always be associated with the glory of the Vienna school, but it is from his books that one must become familiar with his views. His voice is so indistinct and low that even the German students who occupy the front row of the seats in his auditorium are unable to understand him; it is therefore useless for foreigners to attempt it. His conscientiousness is almost morbid; his lecture is constantly interrupted with warnings against some theory advanced in the first edition of his great work on Pathological Anatomy which he has since modified or abandoned. He still conducts the legal post-mortem examinations, and spends an occasional half-hour in the "Section-Saal," but the magnificent museum, which is almost entirely the work of his own hand, is his delight, and here he may constantly be seen, studying and rearranging the specimens, each one of which he has minutely described in Latin remarkable for its purity and elegance. Each specimen is so numbered that it is the work of only a moment to refer to a full clinical history of the case. He is now engaged in preparing a monograph on malformations of the heart, in examples of which the museum is very rich. Nothing can exceed the respect in which he is held by all those associated with him. "The professor," said his assistant to me, "can see changes in a specimen across the room which I can only demonstrate with my microscope." Since his election to the "Herrn-Haus," like Virchow, Rokitansky has devoted himself to the cause of liberality in all political questions, and it was in a great measure due to the eloquence of his maiden speech that the bill was passed which placed the control of the public schools beyond the power of the Catholic Church. In no department is the liberal spirit of the instruction given at this university more evident than in the lectures delivered by his late assistant, Dr. Scheitauer, who is now professor at Pesth. The views of Virchow, Recklinghausen, and Cohnheim were all fairly presented and compared with those advocated by the Vienna school. The material for illustration is inexhaustible, and every opportunity is given to become acquainted not only with pathological changes, but with the rarer forms of abnormal development of the various organs.

The low mortality in the Obstetrical Department, and the freedom from epidemics of puerperal fever, for some years past, can only be ascribed to the unwearying vigilance of Professor Braun. The wards are perfectly ventilated by a system presenting many points of resemblance to that employed in the Philadelphia Hospital. All the linen used is subjected to a high temperature, the lying-in ward is constantly changed, and all puerperal patients presenting any abnormal symptoms are at once isolated. This immunity is the more remarkable when the fact is remembered that these wards are devoted to clinical instruction and are visited at all hours by students coming from all parts of the hospital, any one of whom may be the bearer of contagion, if the proper precautions for disinfection are neglected. The value of this department as regards operative obstetrics is increased by the fact that difficult or apparently hopeless cases are sent here from all parts of the city. I saw, some time ago, a case of this nature, where repeated unsuccessful efforts to perform version in a pelvis which was somewhat contracted had been followed by a tetanic contraction of the uterus. On examination it was found that both arms and one foot had been brought down into the vagina, while the uterus clasped the body of the child so firmly that version was impossible. The condition of the woman was critical, and amputation of the neck of the infant, by means of Braun's blunt hook, was performed. The operation was a tedious one, on account of the difficulty in reaching the neck of the child. Pajot accomplishes the same result more easily by means of a simple instrument which carries a knotted twine around the body of the child, and by a rapid seesaw motion severs the part. The late Sir James Y. Simpson, in the last obstetrical lecture which he delivered, demonstrated to his class the ease and rapidity with which this can be effected. The galvano-caustic apparatus is now altogether used for amputation of the cervix uteri, an operation frequently performed in Vienna, and justified by Virchow's demonstration of the tendency which even simple papillary growths of this part show to become malignant. The ease with which the removal is effected and the freedom from hemorrhage recommend the instrument highly, but its great cost and the necessity of employing a large battery will restrict its use to public institutions. In the wards of Professors Sigmund and Hebra, syphilization has been thoroughly tried and abandoned, and mercurial inunction is now the regular treatment for constitutional syphilis.

A pamphlet recently published by some of the students, entitled "Medical Instruction at Vienna, and its Faults," has excited a great deal of interest and surprise. It seems that it is necessary for the students to wait one or two hours before the doors of Professor Hyrtl's lecture-room in order to secure a seat from which the demonstrations can be satisfactorily seen. 607 students are enrolled for the lectures on topographical anatomy, while seats are provided for 350 at most, in a room poorly lighted, and so devoid of all ventilation that a headache is the inevitable result of attendance on a lecture. I heard Hyrtl describe, with great earnestness, his yearly efforts to secure a proper hall, the promises of the government, and its failure to fulfil them. The "circumlocution office," unhappily, exists in Vienna as in London.

Professor Brücke is also unable to provide room for the numerous students who have been drawn to Vienna, actuated

by a desire to work with this distinguished physiologist. He has devoted even his private room to students, while the larger part of those who work in this department have to employ the benches in the lecture-room as tables, and remove their complicated apparatus as the hour of lecture draws near. No wonder that even the genius of Brücke cannot retain these students, when the university at Leipzig, with its magnificent new laboratorium under the immediate control of Ludwig, offers such attractions. The pamphlet is earnest and respectful in tone, and cannot but be productive of good results. That it may be so is the sincere wish of all the foreign students who enjoy the advantages of the instruction given in this university, which, in spite of its defects, cannot but be recognized as the first school of medicine in Europe.

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TRANSACTIONS OF SOCIETIES.

ACADEMY OF NATURAL SCIENCES.

A SEMI-MONTHLY meeting of the Biological and Microscopical Section of the Academy of Natural Sciences was held April 18, 1870, Dr. J. Gibbons Hunt in the chair.

After the reading of the minutes of the previous meeting, Dr. William F. Norris exhibited some specimens of gold and silver staining, prepared according to the methods of Cohnheim and Von Recklinghausen, including a very beautiful preparation of the tail of a tadpole, wherein the many-rayed cells of the connective tissue, the nerves and blood-vessels, with the nuclei in the walls of the capillaries, were all brought out with wonderful clearness and sharpness of outline by coloration with chloride of gold; also one of the frog's cornea, treated by the same reagent, and showing with remarkable distinctness the tinted fixed corneal corpuscles and the ultimate nerve-fibres. Dr. N. also exhibited some specimens of the centrum tendineum of a rabbit's diaphragm, which had been treated with a one-half per cent. solution of nitrate of silver, and showed very distinctly the endothelium of the lymph-vessels in that structure. In reply to various inquiries made by different members of the department respecting the practical minutiæ of these processes, Dr. Norris stated that he was at some loss to account for the want of success complained of by one or two members, and believed that, with proper precautions, little difficulty need be experienced. In the first place, one should always make use of perfectly fresh tissues, the post-mortem changes which occur in the course of a few hours after death often entirely vitiating the results; and, in the second, great care must be taken to avoid supersaturation and consequent too intense staining of the structures. In preparing, for example, a specimen of the frog's cornea, the reptile should be killed, the cornea removed at once by means of a cataract-knife, and plunged into a bath of half of one per cent. solution of chloride of gold (aurei chlorid. gr. ivss, aq. destil. ℥ij), in which, being of a moderately firm texture, it should remain immersed from ten to fifteen minutes. When thus sufficiently impregnated with the gold salt, the preparation should be transferred to distilled water slightly acidulated by the addition of two drops of No. 8 acetic acid to each ounce. In this fluid it is allowed to remain exposed to diffused light till the preparation has assumed a purple hue, after which the epithelium should be stripped off and the specimen mounted in glycerin for examination. Other tissues should be stained in a similar manner, immersing them in the coloring fluid for a longer or shorter time, according to their delicacy or absorbent power. In using nitrate of silver the solution should be from one-fourth to one-half per cent.; the tissue should be immersed for a short time, until, owing to the coagulating effect of the reagent on the albuminoid substances and the consequent reduction of the salt, a faint, grayish, silvery opalescence of the surface and slight loss of transparency are produced. The preparation should then be freed from excess of the silver salt by washing, transferred to slightly acidulated water, and placed in the light until the desired reduction, and consequent brown staining of the tissue, are produced.

After some further discussion of this interesting subject by members of the Section, Dr. J. Gibbons Hunt exhibited some mounted slides of the Saxifraga sarmentosa, and observed that, in regard to the stomata in plants, the general rule is that they are distributed all over the under surface of the leaves. We find exceptions to this law, however, in some species of Saxifraga; and in S. sarmentosa the stomata are grouped in clusters only, and are not found in the cells between the clusters. In other species of the genus the same peculiarity is found, but this arrangement of the stomata cannot be regarded as a generic feature, because some of the Saxifrages have these organs distributed all over the under surfaces of their leaves. Dr. Hunt further remarked that the singular amœboid movement so often noticed in the white blood corpuscle seems to be a phenomenon not confined to the animal kingdom. A movement apparently similar may be distinctly observed in the nucleus of the cell of Anacharis alsinastrum, and in the plant this wonderful movement appears to be more active than that seen in the blood.

After a short session devoted to the transaction of private business, the department adjourned.

JOS. G. RICHARDSON, *Recorder.*

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CASE OF UNUNITED FRACTURE OF TIBIA, UNDER CARE OF D. H. AGNEW, M.D.

Reported by Dr. C. T. Hunter, Senior Resident Physician.

PATRICK C., æt. 45, miner. Admitted into the Pennsylvania Hospital for an ununited fracture of his right tibia of fourteen weeks' standing. The fracture originally was compound, and resulted from a large mass of coal falling from a height on his leg. The tibia was fractured transversely at its middle; the fibula escaped injury. There was no displacement of the fragments, and the wound of the integuments, a lacerated one, produced by the cause of the fracture, was situated on the anterior surface of the leg, directly over the seat of fracture. At the time of the occurrence of this accident the patient's general condition was excellent; but, owing to some fault of nutrition, the fragments refused to unite, although the wound of the soft parts healed kindly and with very little delay.

On admission into the hospital it was discovered that there was decided mobility between the fragments. The muscles of the leg were atrophied, and the patient's health was below par, owing to his long confinement. Nine days later, Dr. Agnew, the visiting surgeon, determined to make an attempt to excite sufficient local irritation at the seat of fracture, by an operation, to cause union of the fragments. In order to accomplish this, the patient was thoroughly brought under the influence of ether, and a long gimlet was then passed through the integuments on the anterior surface of the leg and to the outer side of the spine of the tibia, obliquely upwards and backwards through the ends of the two fragments, thus holding them firmly and in accurate apposition with each other. This instrument was allowed to remain in for thirty days, the parts being kept at rest by a couple of closely-fitting pasteboard splints and a bandage.

On the 9th of May the gimlet was removed, and, on examining the leg carefully, firm union was found to have taken place between the fragments. While in, the gimlet gave rise to no sloughing or ulceration; indeed, there was so little irritation excited in the soft parts by its presence that it was found necessary to change the primary dressing but once during the active treatment.

The patient was now permitted to leave his bed, and encouraged to walk about the wards and hospital-yard with the aid of a pair of crutches, the leg being enveloped in a starched bandage. His constitutional treatment consisted of fifteen drops of the muriated tincture of iron and one grain of quinia three times daily, together with the best hospital diet.

The patient was discharged from the hospital on the 27th of May, 1870, with a perfect leg.

CALCULUS IMPACTED IN THE URETHRA.

James B., æt. 28, laborer, was admitted into the hospital on the 6th of April, 1870, for retention of urine, caused by a calculus becoming impacted in the fossa navicularis, completely occluding the canal of the urethra. For three or four months before seeking for relief at the hospital he had been subject to great suffering and to repeated attacks of retention of urine by the slow passage of this stone along the urethra from the bladder. Owing to the large size of the calculus and the diminution in the calibre of the urethra just within the meatus externus, the patient had been unable to force the stone beyond the fossa, in which it became impacted, and from which his medical attendant had been unable, even with the aid of instruments, by which the meatus had been dilated, to extract it. Immediately after his admission he was thoroughly etherized, and the meatus externus enlarged by an incision upwards and backwards in the glans penis; the calculus was then seized by a pair of bullet-forceps, and, with very little stretching of the urethra, removed. The slight hemorrhage that followed was easily controlled by a compress of lint, oiled and inserted into the wound, where it was retained by a narrow roller. On the succeeding day the patient, having suffered so little from the effects of the operation, and being relieved so much by the removal of the obstruction to the passage of his urine, asked for his discharge, which was given him. About a week later he presented himself at the hospital and told me that the wound was almost healed, and that he had suffered scarcely any annoyance from it. The calculus measured half an inch in length and a quarter of an inch in breadth.

REVIEWS AND BOOK NOTICES.

THE CELL DOCTRINE: ITS HISTORY AND PRESENT STATE. By JAMES TYSON, M.D., Lecturer on Microscopy in the University of Pennsylvania, etc. 12mo. pp. 150. With illustrations. Philadelphia, Lindsay & Blakiston. 1870.

It is with pleasure that we welcome this little work to the great world of books, filling, as it does, an empty niche in our English literature. In it Dr. Tyson is a historian, rather than a maker of history; but if to bring order out of apparent chaos, form and shape out of apparent mist and uncertainty, is to do good work, then surely he has claims upon our gratitude. To the medical student—ay, to a large proportion of medical practitioners—the "cell doctrine," with its various modifications, often seems hopelessly confused. In the little work before us we have a succinct and very clear account of the steps through which the present doctrines have little by little been evolved, and an equally clear comparison between the views of the more advanced theorists. We commend it, then, most heartily to the medical student, as well as to the busy practitioner who has been unable to follow, through the various French, German, and English authorities, the conflict over this, the foundation theory of life. Every medical college in the land should have it upon the list of its text-books, and the most learned professors will find it valuable on account of its copious bibliography.

MEDICAL DIAGNOSIS, WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE. By J. M. DA COSTA, M.D. Third Edition, revised. 8vo. pp. 844. Philadelphia, J. B. Lippincott & Co. 1870.

So rapid are the advances in our knowledge of disease, and so numerous are the additions to our facilities for its accurate diagnosis, that it would seem necessary that there should be rapidly repeated editions of any work on diagnosis or practical medicine which would keep pace with them. Dr. Da Costa has had ample opportunity to make appropriate emendations, since his work has passed through two large editions and reached a third in the six years of its existence. The many excellencies of the former editions are here repeated, while appropriate space is allotted to the introduction of new matter, without too much increasing the bulk of the volume. In the sixty additional pages is contained matter concerning the sphygmograph, the use of the ophthalmoscope in diseases of the nervous system, temporarily deranged special sense, some points of clinical interest with regard to palsy; also remarks on deranged nutrition and secretion as connected with the nervous system. The tabular element, so useful in all writing and teaching, is retained, and added to where called for. Thus, the valuable table of Prof. Haughton for the estimation of the daily excretion of urea from the specific gravity is introduced. In other respects also the subject of the urine and urinary diseases has been completed by the incorporation of the chemical and other aids it has received since the second edition was issued. Among the more important of these are the changes in the retina in renal disease as discovered by the ophthalmoscope. In skin diseases *chloasmata* are added to *maculæ*, making the only change in the classification of the second edition.

It is impossible, in our limited space, and indeed needless, to analyze further the contents of a volume already so familiar to the profession. It is sufficient to say that we believe it the best and safest authority which can be selected for the guidance of the student or young practitioner, and cordially commend it to them as such.

The publishers have well executed their part, having even improved the appearance of the book, already creditable to them.

A HAND-BOOK OF THERAPEUTICS. By SIDNEY RINGER, M.D. Wm. Wood & Co., New York. 1870.
THE PRESENT STATE OF THERAPEUTICS. By DR. J. RODGERS. Jno. Churchill & Sons, London. 1870.

Probably it would be a matter of some difficulty to find two books more directly antagonistic, both in spirit and method, than those whose titles head this notice. In the one, the author, with a rare faith in empirical medicine, heaps together the rich harvest of ancient and modern experience in wild, systemless profusion. In the other, marches a prince among doubters, systematically, relentlessly pushing forward the stern, hard logic of figures and fair deductions, never losing sight of his goal, until at last, in his own words, the sad conclusion is inevitably forced upon us that the materia medica of the old school, the result of the accumulated experience of ages, is a worthless—nay, more, as it has hitherto frequently been employed, a noxious—mass of what were once regarded as health-restoring drugs.

Dr. Ringer's work claims to be a hand-book for the use of students; and yet we conceive it to be the last book that a judicious teacher would place in the hands of his pupils, holding, as we do, the belief that system is of the utmost importance in imparting the first outlines of knowledge on any subject. The very absence of system, with the richness in unconnected empirical facts, however, renders the work the more valuable to the busy practitioner as a browsing-ground on which he can spend odd moments of leisure.

The argument of Dr. Rodgers' book is as follows: Homœopathic treatment of disease is simply no treatment at all. Acute disease, treated homœopathically, yields better results than when treated in the orthodox manner: therefore our orthodox treatment is a mortal error.

The first premise of this argument Dr. Rodgers, we think, establishes beyond all cavil. But in his attempt to do the same for the second, to us, he corroborates the old saying that "Credulity and incredulity are twin brothers, travelling hand in hand." Thus, he relies upon the statistics of certain Viennese homœopathic hospitals, which, according to his own showing, are founded upon inaccurate diagnoses, and in which fifteen out of sixteen cases of emphysema of the lungs are claimed to have been cured!! We deem the statistic method of inquiry as liable to elicit error as truth, unless used with very great caution, and, after a careful perusal of Dr. Rodgers' book, remain firm in the opinion that our present therapeutics will weather the storm which he has raised against it. Indeed, we fear most from such works as Dr. Rodgers' as tending to lead into the easy ways of empiricism rather than the laborious paths of physiological investigation and study,—the only ones which can lead at last to assured success and triumph.

GLEANINGS FROM OUR EXCHANGES.

STATISTICS OF HYDROPHOBIA.—M. Bouley has presented to the Academy of Sciences a valuable report based upon the official cases of hydrophobia reported between the years 1863 and 1868.

It appears that the report includes 320 persons who have been bitten by mad animals,—*i.e.* 284 by male dogs, 26 by bitches, 5 by cats, 5 by wolves.

Of the 320 the bites were followed in 129 cases (40·31 per cent.) by symptoms of hydrophobia and by death. In 123 cases (38 per cent.) no such symptoms followed. In 68 cases the result was not reported; but probably most of them recovered, as the author thinks it more probable that a fatal result would have been noted.

Of the 320 persons bitten, 206 were males, 81 females. In 33 cases the sex is not mentioned. Of the 206 males, 100 (or 48 per cent.) died; while of 81 females but 29 (or 36 per cent.) died.

The age at which most cases occurred was from 5 to 15; but at this age the bites are more rarely followed by hydrophobia: thus, of 97 cases between 5 and 15 the mortality was but 26; while between 15 and 25, 25 cases occurred, with 12 deaths; between 25 and 35, 34 cases, with 21 deaths; and between 35 and 45, 28 cases, with 17 deaths.

Season had but little influence on the frequency of the cases: thus, during April, May, and June there were 89 cases; during June, July, and August, 74 cases; during September, October, and November, 64 cases; during December, January, and February, 75 cases. It is difficult to overestimate the importance of this result, which shows the necessity of guarding against hydrophobia equally at all seasons.

Of 109 cases when the *period of incubation* was determined, it was less than 60 days in 76; in the 33 others it varied from 60 to 240 days, though in but a comparatively few cases did it exceed 100 days. It would follow from this, therefore, that after a bite from a rabid animal the chances of hydrophobia following diminish rapidly after the end of the second month. The period of incubation is much shorter in young persons (3 to 20 years) than in those older (44 days in the first series, against 75 in the second).

All of the cases in which symptoms of hydrophobia followed were fatal: the duration of the disease being, in 74 out of 90 cases, less than four days; the majority of cases terminating on the second or third day.

The frequency with which the wound was followed by symptoms depended much on its locality: thus, of 32 cases where the face was bitten, 29 died; of 73 cases where the hand was bitten, 46 died; of 28 cases where the arm was bitten, but 8 died; of 24 cases where the leg was bitten, 7 died; and of 19 cases where the trunk was bitten, 12 died.

In regard to the treatment, it appears from the statistics that the application of the actual cautery to the wound as quickly as possible is the surest prophylactic measure: thus, of 134 bites which were cauterized, 92 were followed by no bad symptoms; while of 66 bites which were not cauterized, death followed in 56 cases. If cauterization (by actual cautery or by caustics) cannot be practised, such other prophylactic means as suction or expression of the wound, or the application of a ligature above the wound, should be employed. (*Arch. Gén. de Méd.*, June, 1870, p. 752.)

EXTIRPATION OF A KIDNEY IN MAN. By PROFESSOR G. SIMON, of Heidelberg.—In a communication to the *Deutsche Klinik* for April, 1870, Professor Simon gives an abstract of the highly interesting and unique case of nephrotomy which he performed in August, 1869, in which he corrects some inexact statements that have appeared in some of the continental journals. The patient, a woman, forty-six years of age, had been operated upon by Dr. Walther of Offenbach, one year and a half previously, on account of a cystoid tumor of the ovary which was so intimately connected with the uterus that that organ had to be removed at the same time, ovariotomy being thus combined with hysterotomy. The left ureter was also so closely adherent to the mass that its severance became a necessity, in consequence of which an abdominal-uretral fistula remained, through which all of the urine secreted by the left kidney involuntarily escaped. Fruitless attempts to cure this intolerable condition, by trying to effect a communication between the ureter and the bladder, were made by Professor Simon, and efforts to produce artificial occlusion of the ureter, and by that means occlusion of the kidney, had to be abandoned on account of very dangerous symptoms.

Extra-peritoneal nephrotomy was ultimately practised. The patient stood the operation pretty well, and after six weeks could leave her bed. At the expiration of six months the ligatures came away from the pedicle with comparatively slight traction, and two days afterwards the sinus in which they were imbedded had closed, and thus the whole wound had cicatrized.

At the present date, seven months after the operation, the woman is perfectly well, being engaged all day in needlework, and sometimes takes long walks in the environs of Heidelberg. In a pamphlet on the case, which will appear in a short time, Professor Simon promises to give its full history, together with a description of the different steps of the operation, and other interesting and important details. (*Edinburgh Medical Journal*, May, 1870.)

STATISTICS OF EXCISION OF THE HIP-JOINT FOR CARIES. By DR. H. LEISRINK, of Hamburg.—In this elaborate article, in which a score of cases from the practice of German surgeons make their appearance for the first time, Dr. Leisrink insists that excision of the hip-joint is a life-saving operation if it be performed early enough,—his indication for it being caries as soon as evinced by the formation of abscesses. His statistics of the operation are interesting, and they show a higher percentage of mortality than any that have heretofore been published. An examination of the 176 cases shows 56 recoveries, 98 deaths, and 22 under treatment at the time they were reported, thus affording a mortality rate of 63·6 per cent.

85 of the operations were performed by German surgeons, with a mortality of 68·8 per cent.; 42 by surgeons of Great Britain, with a mortality of 28·5 per cent.; 29 by American surgeons, with a mortality of 48·3 per cent.; 16 by French surgeons, with a mortality of 75 per cent.; and 4 by Russian surgeons, with a mortality of 50 per cent. (*Archiv für Klinische Chirurgie*, Band xii., Heft 1, 1870.)

BROMAL HYDRATE. By DR. E. STEINAUER.—The bromal hydrate is in all respects the analogue of chloral hydrate, breaking up in the presence of an alkali into bromoform and water and occurring in acicular, aromatic crystals, freely soluble in water. Its symbol is $\frac{CBr_3}{COH}+2H_2O$. When it is injected into an animal, it very slowly develops bromoform,—the author having been able to recognize both bromal and bromoform as existing in the blood one hour and a half after the injection. When injected into frogs in the quantity of from 0·002–0·01 grm., bromal produces at first great restlessness and activity; then, after some minutes, a sleep not so deep that the frog will remain on his back when laid there, but accompanied by an anæsthesia so complete that the legs can be cut off piecemeal and acid put on the wound without producing any recognition. Sometimes opisthotonos occurs; sometimes death takes place quietly, with gradually ceasing respiration.

The effects upon warm-blooded animals—cats, dogs, porpoises ? (*Meerschweinchen*)—were as follows: First, inquietude and contraction of the pupil, occurring immediately after the injection; then hyperæmia of the mucous membranes of the mouth and nose, with blinking of the eyelids, slipping of the limbs, and afterwards closure of the eyes, and sleep, out of which the animal would spring up now and again as though dreaming. Increased secretion from the mouth and nose followed, and finally anæsthesia, very frequent respiration, dyspnœa, and cyanosis. The sticking of a needle excited nowhere any indications of sensibility, although reflex actions were occasionally produced. The dyspnœa grew worse, and death occurred at last, either in convulsions or with gradual failure of the respiration and heart's action. After death, in a number of instances in warm-blooded animals, both auricles and ventricles were found relaxed and filled with fluid blood and dark-red coagula. The same condition of things also existed in frogs.

In other cases, both in warm- and cold-blooded animals, the

left ventricle was found tetanically contracted and bloodless, whilst the right ventricle and the auricles were found relaxed and distended. In some instances the heart was exposed before death and the left ventricle seen to be tetanized, whilst the other cavities were still beating. Surprised at this, Dr. L. instituted experiments to discover, if possible, its cause, and satisfied himself that the different results depended upon the size of the dose: if the latter was large and caused death in a short time, the ventricle was found relaxed and gorged; if small and the fatal result long deferred, the ventricle was contracted and bloodless.

The first of these methods of death Dr. L. explains as the result of the liberation of active nascent bromoform in such quantities as to cause immediate cardiac paralysis. The second method is, he believes, produced by the products resulting from the oxidation of the bromoform, and the consequent liberation of nascent bromides or possibly bromine itself. There are, then, three stages of symptoms in bromal-hydrate poisoning: first, the excitement and unrest caused by the bromal hydrate acting as such; then the anæsthesia and hypnosis produced by bromoform; and, finally, dyspnœa and cardiac tetanus, caused by the bromides or bromine. Chloral hydrate differs in its action chiefly on account of the chlorides, the ultimate result of its decomposition in the blood, being innocuous. The proofs (?) of this theory are: First, in regard to chloral hydrate (to show its action when not decomposed in the blood), in a case of arthritic disease with deficiency of alkali in the blood the drug produced simply intense excitement, instead of its wonted effects; but when the patient was put upon the use of potash the usual hypnotic symptoms were induced. Second, experimental proof that if alkalies were administered to frogs a little before the hypodermic injection of the bromal hydrate, the stage of excitement was wanting, whilst the subsequent symptoms were intensified. Third, the finding of an increased amount of bromides in the urine of bromohydrated animals. Fourth, the finding of bromides in the blood,—by a method, however, which might produce them out of bromoform if alone present.

Bromal was also administered repeatedly to several patients,—most of them epileptics,—with the effect of producing sleep and very greatly diminishing the number of the paroxysms. The best results were obtained when alkalies were used also. Thus, Anna S., epileptic, having always one and often two paroxysms weekly, took for eight days 1·5 grm. bicarbonate of soda, and had in the mean time one convulsion, severe headache, restless nights. On the ninth day she took 0·2 grm. bromal hydrate in pill. Slept well the following night, and woke without headache. She took the same dose at evening for three weeks, and in the morning and at midday one-half teaspoonful of a powder containing "Natr. bicarb., Sacch. alb., ãã 30·0 grm.; Elæosacch. menth. pip. 7·5." Twice she had prodromic feelings, but no epileptic paroxysms. The bromal hydrate was also given to several patients suffering from Tabes dorsalis, with the result of greatly relieving pain and producing excellent sleep at night. (*Virchow's Archives*, May 19, 1870.)

A CHILD CRYING AFTER CRANIOTOMY.—In the annual address delivered before the Dublin Obstetrical Society, Dr. Ringland stated that the reason why the well-known Dr. John Kirby gave up the practice of midwifery for that of surgery was the following circumstance: He was once called in to assist a physician in a case of badly deformed pelvis, in which the woman was rapidly sinking, and lessening of the head was imperatively demanded. This operation was performed by the attending physician, who quickly delivered the child and laid it on the floor. While they were both urgently engaged with their patient, the wretched infant, although deprived of most of its brain, horrified all present by crying loudly out. Immediately the original attendant adopted the more than questionable course of crushing in the head of the child with the heel of his boot. A horrid whisper at once passed around the room among the lookers-on, and, whilst a coroner's jury exonerated the immediate actor, yet public opinion ran counter to him, and he completely lost his midwifery practice. Dr. Kirby was so distressed at this occurrence that he at once gave up that branch of his practice, which was then very large. (*Dublin Quarterly Journal*, February.)

THE SELECTION OF MONTHLY NURSES.—From the same interesting address we glean the following: Dr. Charles Johnson, from his first starting into practice, was most particular in the selection of his monthly nurses, and would not permit his patients to employ any he did not himself approve of. This was then a rather novel course to adopt, and was often stoutly resisted by the ladies, who considered they ought to have as full liberty in the choice of their monthly nurses as of any domestic servant. But Johnson steadily adhered to the rule he had laid down, and by so doing was able to keep a very wholesome and needful check over this class of medical subordinates. The accoucheurs of Dublin are much indebted to him for possessing the undisputed right of nominating the nurse, without which they would have no real control or authority over her or over the patient. (*Ibid.*)

MISCELLANY.

THE WAR IN EUROPE.—At present the Franco-Prussian contest interests the profession here in its political aspects only. Possibly its medical and surgical history will be at some future time added to the experience so largely increased during our own late war.

Americans studying medicine abroad can, if they speak German, obtain positions as assistant surgeons in the Prussian army; the French forces, on the contrary, are to be officered exclusively by Frenchmen. Such were the announcements made by these governments respectively. It will be remembered that during the Crimean War quite a number of our countrymen entered the service of the Czar, and some of them gained rank as well as influence in his medical staff.

WE learn, from telegraphic reports in the daily papers, that an association somewhat similar to our own Sanitary Commission has been formed in Paris. It is chiefly under the auspices of American ladies,—Mrs. Burlingame being its president, and Mrs. T. W. Evans, the wife of the celebrated dentist, its vice-president.

M. NÉLATON was said by some of the French papers to have gone to the front for the purpose of organizing an ambulance corps; but it is shrewdly suspected that the real object of his presence there was to give his professional services to the emperor.

THE chief medical officer of the French army is Baron Larrey, a son of the distinguished man who filled the same position in the time of Napoleon I. At the head of the Prussian medical staff is Inspector-General Grimm.

"DR." PAUL SCHOEPPE, convicted of the murder of Miss Stennecke (perhaps justly, but certainly on insufficient evidence), asks the Governor to discharge him, "that he may go and fight that impudent man, Napoleon." From what is known of the "doctor's" record, he could probably meet almost any impudent man on equal ground in that respect.

THE SMALLPOX IN PARIS.—The epidemic of variola in Paris seems to have subsided. During its continuance, if report says truly, Dr. Lanoix and his confrères who vaccinated directly from the heifer made very large sums of money. It does not seem, however, to be a settled fact that the protection afforded in this way is any more complete or certain than that derived from the lymph or scab taken from the human subject.

THE naval board of medical examiners of candidates for admission and promotion in the medical staff of the navy resumed its sessions, after the summer recess, at the Naval Hospital, Philadelphia. It is said there are more than fifty vacancies in the list of assistant surgeons of the navy, and very few candidates seeking to fill them.

MORTALITY OF PHILADELPHIA.—The number of deaths in this city during June and July amounted to 3349, as against 3094 for the corresponding term last year. The return for the week ending July 23 was 584,—the largest ever made at our Health Office; the following week it was 581. It seems as if the long continuance of the heat might be assigned as one cause of this great mortality, since in some of the earlier weeks the relation between the two years was different. It may be of interest to our readers to compare them:

Week ending	1869	1870
June 5,	241	271
" 12,	250	278
" 19,	236	247
" 26,	261	310
July 3,	362	395
" 10,	382	340
" 17,	397	343
" 24,	466	584
" 31,	399	581

In contrast to these statistics of the general mortality of the city may be placed the report of the physician of the Municipal Hospital in regard to relapsing fever. In June there were 198 cases admitted, 139 discharged, and 28 deaths. In July the admissions were 91, the discharges 156, and the deaths 16.

ARTFUL.—One of the most quackish of the quack medical periodicals of the day recently presented to its readers, as a leading article, a full report of the last meeting of the State Medical Society of Pennsylvania. An uninitiated person might suppose the paper in question to be the official organ of that body. It is by such "dodges" as this that impertinent empirics edge themselves into recognition abroad as representatives of the regular profession in this country.

THE HEATED TERM.—During the month of June of the present year the temperature in Philadelphia averaged 77·21° Fahr.,—5·68° above the mean of that month for 45 years. For July we have recorded an average of 80·61°,—4·36° above that of the same month for 45 years. So far as the records can be relied upon, the whole period of June and July has never been so hot for 91 years; although the June of 1828, as well as that of 1831, averaged 77°, and the July of 1868 was even hotter, its mean having been 80·94°.

YELLOW FEVER.—In the early part of August several cases of yellow fever were brought to this port on board the brig Home, from Jamaica. They were detained with the vessel at the Lazaretto, where several new cases occurred among the officers and employés. Dr. Thomson, the Lazaretto physician, died of the disease, as did the steward and one or two bargemen. In all, there were 16 cases and 13 deaths. No cases occurred outside the inclosure.

A case of undoubted yellow fever proved fatal at the Pennsylvania Hospital on the 22d of August. The patient was a sailor on the ship Carleton, from Yarmouth, Nova Scotia; the disease manifested itself on the 18th, after his arrival in this city.

MANY females are volunteering to act as nurses for the wounded, both in France and in Prussia.

HEROIC MALPRACTICE.—The following piece of testimony, from a report of a coroner's inquest which took place recently in New York, speaks for itself:

"Dr. Marcus Berg testified that he resided at No. 117 East Seventh Street; was a graduate of Heidelberg; lost his diploma on the passage from Germany to this country; on June 24 was called to attend Mrs. F., and found her suffering from inflammation of the womb; she had also spotted fever; prescribed for her, and she soon grew better; five days before her death she was able to call on witness at his residence; on July 30 she was suffering from pain in the right side; found a malformation of the womb; on August 1, assisted by Althof, a barber, witness performed the operation; made an incision in the abdomen six inches in length; intended only to take out the fœtus, but, finding no ligaments or bandages to the womb, thought he would remove that also; the deceased would not have recovered had he not done so; no extensive hemorrhage followed the wound, which was afterwards sewed up; deceased did very well until the following day, when witness found the heart beating violently; death occurred at 6.30 P.M. on August 3."

We are happy to say that, on the strength of this ghastly confession of ignorance and recklessness, the jury attributed the death to "gross malpractice on the part of Marcus Berg," who was committed to the Tombs to await the action of the grand jury.

SURGICAL REPORTS OF THE LATE AMERICAN WAR.—It is gratifying to observe with what high appreciation the masterly reports from the Surgeon-General's Office are received abroad. In *Schmidt's Jahrbücher*, 1870, ii. p. 254, in a critique on "A Report on Excision of the Head of the Femur," the writer says:

"The Surgical Reports of the American War are among the most prominent and richest additions to military surgery. The colossal amount of the material on which they are founded, the admirable manner in which they are worked up, the methodical arrangement of the whole, and the thoroughly exhaustive use of the entire literature of the subjects, make these American works of untold value to the military surgeon."

Baron Larrey, in presenting, in the name of Surgeon-General Barnes, to the Imperial Academy of Medicine, Paris, the Collection of Photographs of Surgery and Morbid Anatomy published under direction of Lieutenant-Colonel Otis, dwells upon the great extent, variety, and value of the series, and closes in the following words:

"This precious collection is worthy the attention and thanks of the Academy, since it will be of great assistance to researches and works on surgery in general, and on military surgery in particular." (Extract from the *Bulletin of the Imperial Acad. of Med.*, vol. xxxv. p. 274, March 29, 1870.)

DEATHS OF DISTINGUISHED MEDICAL MEN.—Following close upon the deaths of Simpson and Syme, we hear of that of Von Graefe, whose name is so intimately associated with the history of recent advances in ophthalmic surgery. He had been in failing health, we believe from pulmonary phthisis, for several years.

We have also to note the death, in Paris, of M. Auzias-Turenne, who took an active part in the earlier experiments and discussions on the subject of syphilization.

PROF. TARDIEU, whose connection (as a witness) with the trial of Prince Napoleon made him so unpopular with the students, has at length been allowed by them to resume the uninterrupted discharge of his duties.

ATTENTION has lately been drawn, in several of the British journals, to the fact that sulphuric ether is used extensively by many of the people in the northern part of Ireland as a substitute for the ordinary intoxicating liquors.